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INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/CH2004/000504

International filing date (day/month/year)
13.08.2004

Priority date (day/month/year)
20.08.2003

International Patent Classification (IPC) or both national classification and IPC
C07C323/58, A23L1/231

Applicant
GIVAUDAN SA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

U / 567 / 23
IAP9 Rec'd PCT/PTO 08 FEB 2006
International application No.
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

1. ☒ The following document has not been furnished:
- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
 - ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).
- Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-6
Inventive step (IS)	Yes: Claims	
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations
- see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

- D1: US-A-3 620 772 (KITADA NAGAYOSHI ET AL) 16 November 1971 (1971-11-16)
D2: GB-A-1 232 719 (AJINOMOTO CO.) 19 May 1971 (1971-05-19)
D3: GB-A-1 469 331 (PFIZER LTD) 6 April 1977 (1977-04-06)
D4: GB 836 694 A (UNILEVER LTD) 9 June 1960 (1960-06-09)
D5: US-A-4 592 917 (TANDY JOHN S) 3 June 1986 (1986-06-03)
D6: US-A-3 741 775 (LEE C) 26 June 1973 (1973-06-26)
D7: US-A-3 532 514 (MAY CHARLES GERARD) 6 October 1970 (1970-10-06)
D8: US-A-3 660 114 (THOMAS PAUL D) 2 May 1972 (1972-05-02)
D9: GB-A-1 082 504 (PFIZER & CO C) 6 September 1967 (1967-09-06)
D10: US-A-5 723 504 (MIODUSZEWSKI JAN ZBIGNIEW ET AL) 3 March 1998 (1998-03-03)
D11: GB-A-1 285 568 (UNILEVER LTD.) 16 August 1972 (1972-08-16)
D12: EP-A-0 320 057 (UNILEVER PLC ; UNILEVER NV (NL)) 14 June 1989 (1989-06-14)

1. The present application relates to: Maillard reaction compounds of cysteine and a sugar providing meat flavouring to foodstuffs; a method for their preparation, comprising the reaction of cysteine with a sugar; a method to confer meaty flavour on a foodstuff with the Maillard reaction compounds mentioned above and their use to confer on a foodstuff a meaty flavour or aroma.
2. D1 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose such as xylose.
3. D2 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose such as xylose, ribose or glucose.
4. D3 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose monosaccharide.

5. D4 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose such as xylose, ribose or arabinose.
6. D5 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose monosaccharide such as xylose, arabinose, ribose, glucose, mannose, galactose,...
7. D6 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose such as glucose, rhamnose,...
8. D7 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose such as xylose, arabinose, glucose.
9. D8 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose monosaccharide such as arabinose.
10. D9 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose monosaccharide such as xylose, ribose, arabinose,...
11. D10 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a sugar: a pentose or a hexose such as xylose, glucose, galactose, rhamnose, fructose, mannose,...
12. D11 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a monosaccharide such as xylose, ribose, arabinose, glucose,...
13. D12 discloses a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a reducing sugar: a pentose or a hexose such as xylose, ribose, arabinose, glucose, mannose,...

Novelty

14. The subject-matter of claims 1-6 is not novel in the sense of Art. 33(2) PCT. Documents D1-D9 disclose a method of producing a Maillard reaction product having a meatlike flavour by heating an aqueous solution of cysteine and a monosaccharide such as a pentose or a hexose monosaccharide; for example, xylose, ribose, arabinose, glucose, mannose,... These disclosures anticipate the subject-matter of claims 1-6, which is therefore not novel.

Inventive step

15. If the applicant wishes to render the subject-matter of the present claims novel and inventive by incorporating therein any feature not previously claimed, then in order to help the examiner assess inventive step with respect to the objective problem, he ought to show that this feature was non-obvious with respect to the desired objective and preferably is causative to an unexpected technical effect. Only in this case could such a feature contribute to an inventive step with respect to D1-D12 according to Art. 33(3) PCT.

Further comments

16. Features introduced by terms like "preferably" have no limiting effect on the scope of the claim including them (see Guidelines, C-III, 4.6). The presence of such non-limiting features is however detrimental to the conciseness of claims 3 and 4, contrary to Art. 6 PCT.
17. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D12 is not mentioned in the description, nor are these documents identified therein.
18. When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims.
19. In order to facilitate the examination of the conformity of the amended application with the requirements of Article 19(2) and 34(2) PCT, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of

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AUTHORITY (SEPARATE SHEET)**

International application No.

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the application as filed on which these amendments are based.

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.